

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT <i>ENGINEERING DIVISION</i> APPLICATION PROCESSING AND CALCULATIONS	PAGES 6	PAGE 1
	APPL. NO. 451773	DATE 4/24/2008
	PROCESSED BY LI CHEN	CHECKED BY

PERMIT TO OPERATE

COMPANY NAME AND ADDRESS

LA DWP Valley Generation Station
11801 Sheldon Street
Sun Valley, CA 91352
SCAQMD ID #800193

Contact: Bruce Moore (213) 367-0443

EQUIPMENT LOCATION

11801 Sheldon Street
Sun Valley, CA 91352

EQUIPMENT DESCRIPTION

Section D of the Facility Permit, ID# 800193, Facility Description and Equipment Conditions

Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions	Conditions
Process 3: INTERNAL COMBUSTION					
System 2: EMERGENCY POWER					
INTERNAL COMBUSTION ENGINE, EMERGENCY POWER, DIESEL FUEL, CATERPILLAR, MODEL 3412 DITTA40 TIMING RETARD, TURBOCHARGED AFTERCOOLED, 896 HP A/N: 379720 , <u>451773</u> Permit to Construct Issued: 05/18/01 Electric Power 600 KW	D136		NOX: PROCESS UNIT**	CO: 8.5 GRAM/BHP-HR (4) [RULE 1303(a)(1)-BACT] NOX: 469 LBS/1000 GAL (1) [RULE 2012], NOX: 6.9 GRAM/BHP-HR (4) [RULE 2005] PM: 0.38 GRAM/BHP-HR (4) [RULE 1303(a)(1)-BACT] VOC: 1.0 GRAM/BHP-HR (4) [RULE 1303(a)(1)-BACT]	B59.1, <u>C1.4</u> , D12.2, <u>E116.1</u> , E162.1, E193.2, <u>K67.4</u>

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BACKGROUND

The Los Angeles Department of Water and Power (LADWP) operates the Valley Generation Station (VGS) for electricity generation. It includes two combined cycle gas turbine generators (Units 6 and 7) and one simple cycle gas turbine generator (Unit 5). The facility has an emergency generator to provide backup power in case of power failure and emergencies. This generator is a diesel IC engine. It was put in service in 2001. The District issued a permit to construct in May 18, 2001. The application number is 379720. The device number is D136.

After the device was permitted the District enacted a new rule, Rule 1470. Rule 1470 applies to diesel-fueled internal combustion engines such as this emergency generator. Rule 1470 requires low sulfur diesel, restricts operating hours and conditions, and sets conditions for maintenance and reporting. Facilities shall submit compliance plans for the diesel-fuel IC engines to demonstrate compliance with Rule 1470. LADWP has submitted the compliance plan, and the plan has been approved.

This application is to add a condition that allow the facility to conduct annual maintenance and testing for up to 30 hours in accordance with Rule 1470.

The application was received on December 16, 2005, and deemed completed on January 10, 2006. The following table shows the application numbers.

Table 1 Application Numbers

Applications	Purpose
451773	Add a condition per Rule 1470 (Administrative Changes)
451774	Title V Facility Permit Modification

LA DWP is a Title V facility and participates in the NO_x RECLAIM program.

PROCESS DESCRIPTION

The emergency IC engine is a diesel-fueled Caterpillar, Model 3412 DITTA40, Timing Retard. It is turbocharged and is equipped with an aftercooler. It is rated 896 braking horsepower. It is a NO_x Process Unit.

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EMISSIONS

Emissions were determined in A/N379720 using manufacturer provided emission limits, and assuming 199 hours of annual operation. The proposed 30 hours of annual maintenance will not add to the 199 hours of allowed regular operation. Therefore, it does not affect the hourly emissions and maximum daily emissions. The emissions are determined in the next table.

Pollutants	Hourly Emissions (lb/hr)	Max Daily Emissions (lb/day)	Annual Emissions (lbs)
CO	0.30	7.1	59
NO _x	11.4	273	2,267
PM ₁₀	0.41	9.9	82
VOC	0.08	1.9	16
SO _x	0.37	8.5	73

Although the PM₁₀ hourly emission rate is 0.41 lbs/hr the permit has a PM₁₀ emission limit of 0.38 gram/bhp-hr. The facility has provided source tests data that indicate the PM₁₀ emission rate of 0.28 grams/bhp-hr.

RULES EVALUATION

Rule 212 – Standards for Approving Permits

There is no school within 1,000 feet of the facility boundary, and there is no emission increase. Public notice is not required.

Rule 401 – Visible Emissions

Visible emissions are not expected under normal operating conditions of the turbines.

Rule 402 – Nuisance

Nuisance problems are not expected under normal operating conditions of the turbines.

RULE 431.2 – Sulfur Content of Liquid Fuels

The rule requires that sulfur content in diesel shall be less than 15 ppm. Compliance is expected.

RULE 1110.2 – Emissions from IC Engines

The rule does not apply to emergency equipment that operates less than 200 hours per year.

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Rule 1300 – New Source Review for Non-RECLAIM Pollutants

NSR is not triggered since emergency equipment is exempted from modeling and offset. This application does not alter the equipment, and does not increase emissions hourly and daily emissions. BACT is not triggered.

RULE 1401 – Toxic Air Contaminants

Emergency equipment is exempted from the requirements of this rule.

RULE 1470 – Requirements for Stationary Diesel-Fueled Internal Combustion Engines

According the Rule 1470 (c)(3)(C)(i)(II) an emergency IC engine that emits a diesel PM at a rate less than or equal to 0.40 g/bhp-hr is allowed up to 30 hours of annual operation for maintenance and testing purposes. The equipment has a manufacturer certified PM emission rate of 0.38 g/bhp-hr, which is also listed on the permit. Thus, it should be allowed to operate for 30 hours per year for maintenance and testing purposes.

The facility is currently in compliance with this rule. It has a District approved Rule 1470 compliance plan in place. Continued compliance is expected.

Rule 2005 – NSR for RECLAIM Pollutants

Modeling is exempted for emergency equipment. BACT is not triggered since there is no emission increase. The 30 hours per year for maintenance and testing will not increase the annual RTC requirement.

Rule 2012 – Monitoring Recording and Record Keeping for RECLAIM

The Valley facility is currently in compliance with all monitoring, record-keeping, and reporting requirements of Reclaim for the existing facility. The IC engine is a process unit. It is required to report NOx emissions using the 469 lbs/1000 Gallons emission factor

Regulation XXX – Title V

The DWP Valley facility is currently subject to the Title V requirements. The final “initial” Title V permit was issued on July 19, 1999. The addition of the IC engine condition is considered a minor Permit Revision according to the definition provided in Rule 3000(b)(6). As required, EPA is afforded the opportunity to review and comment on the project within a 45 day review period.

RECOMMENDATION

The equipment is expected to comply with all the federal, state, and local regulations. It is recommended that a permit to operate be issued with the following conditions.

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CONDITIONS

B59.1 The operator shall only use the following material(s) in this device :

Diesel which meets the specifications of Rule 431.2

[Rule 431.2]

[Devices subject to this condition: D136]

C1.4 The operator shall limit the operating time to no more than 199 hour(s) in any one year.

The 199 hours per year shall include no more than 30 hours in any one year for maintenance and testing purposes.

The operation of the engine beyond the 30 hr/yr allotted for engine maintenance and testing shall be allowed only in the event of a loss of grid power or up to 30 minutes prior to a rotating outage, provided that the grid operator or electric utility has ordered rotating outages in the control area where the engine is located or has indicated that it expects to issue such an order at a certain time, and the engine is located in a utility service block that is subject to the rotating outage.

Engine operation shall be terminated immediately after the utility distribution company advises that a rotating outage is no longer imminent or in effect.

[Rule 1110.2, Rule 1303(a)(4)-Modeling, RULE 1470]

[Devices subject to this condition: D136]

D12.2 The operator shall install and maintain a(n) non-resettable elapsed time meter to accurately indicate the elapsed operating time of the engine.

[Rule 1303(b)(2)-Offset]

[Devices subject to this condition: D136]

E116.1 This engine shall not be used as part of a demand response program using interruptible service contract in which a facility receives a payment or reduced rates in return for reducing its electric load on the grid when requested to do so by the utility or the grid operator.

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[RULE 1470]

E162.1 The operator shall use this equipment only during utility failure periods, except for maintenance purposes.

[Rule 1110.2]

[Devices subject to this condition: D136]

E193.2 The operator shall operate and maintain this equipment according to the following specifications:

The fuel injection timing of this engine shall be set and maintained at 4 degrees retarded relative to standard production timing at the factory as established by Caterpillar Product News Bulletin "3412 DITTA 500 KW California Configuration" dated July 1993.

[Rule 1303(a)(1)-BACT]

[Devices subject to this condition: D136]

K67.4 The operator shall keep records, in a manner approved by the district, for the following parameter(s) or item(s):

Date of operation, the elapsed time, in hours, and the reason for operation. Records shall be kept and maintained on file for a minimum of two years and made available to district personnel upon request.

An engine operating log listing on a monthly basis the emergency use hours of operation, maintenance and testing hours of operation, and any other hours of use with a description of the reason for operation. Additionally, each time the engine is started manually, the log shall include the date of operation and the timer reading in hours at the beginning and end of operation.

The log shall be kept for a minimum of three calendar years prior to the current year and be made available to District personnel upon request. The total hours of operation for the previous calendar year shall be recorded sometime during the first 15 days of January of each year.

[RULE 1110.2, 11-14-1997; RULE 1304(a)-Modeling and Offset Exemption, 6-14-1996, RULE 1470, 6-1-2007]

[Devices subject to this condition: D136]